Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A light source comprising:

a multi-spatial mode semiconductor diode laser; and

a reflector having a three-dimensional pattern of refractive index variations within the reflector, the reflector being in optical communication with the semiconductor diode laser to receive an output beam of the diode laser, such that a portion of the light in the output beam is reflected back into the laser by the reflector to stabilize one or more of the spatial beam quality and the spectral line width of the diode laser,

wherein the reflector has a reflectivity spectral width that is less than 0.2 nm.

2. (Withdrawn) The light source of claim 1, wherein the reflector is a volume diffractive grating.

3. (Withdrawn) The light source of claim 1, wherein the reflector is an interference filter.

4. (Original) The light source of claim 1 where the reflector is a photonic bandgap crystal.

5. (Canceled)

6. (Withdrawn) The light source of claim 1, wherein the reflector is in contact with a facet of the diode laser.

7. (Previously Presented) The light source of claim 1, wherein the reflector has a peak reflectivity that is greater than a reflectivity of an output facet of the diode laser.

8. (Canceled)

9. (Previously Presented) The light source of claim 7, wherein the reflectivity of the output facet is less than about 50%.

10-12. (Canceled)

13. (Previously Presented) The light source of claim 1, wherein the reflector is configured to focus the output beam from the diode laser along a fast axis of the diode laser.

14. (Previously Presented) The light source of claim 1, wherein the reflector is configured to focus the light from the diode laser along a slow axis of the diode laser.

15. (Previously Presented) The light source of claim 1, wherein the reflector is configured to enhance the gain of a desired lateral mode over the gain of other lateral modes to increase a brightness of the output beam.

16. (Previously Presented) The light source of claim 1, wherein the reflector is configured to enhance optical feedback to the diode laser in a desired optical mode relative to other optical modes.

17. (Original) The laser source of claim 16, wherein the optical feedback from the reflector spatially shapes the output beam of the light source to have a square or Guassian profile.

18-19. (Canceled)

20. (Previously Presented) The light source of claim 1, wherein the reflector is configured to provide selective feedback to the diode laser such that a single longitudinal mode is emitted from the light source.

21. (Previously Presented) The light source of claim 1, wherein the reflector is arranged relative to the diode laser and is configured to provide selective feedback to the diode laser such that the sidemode suppression ratio in the light source is greater than -30dB.

22. (Canceled)

23. (Previously Presented) The light source of claim 1, wherein the reflector is arranged relative to the diode laser and is configured to provide selective feedback to injection lock the wavelength of the output beam from the diode laser.

24. (Previously Presented) The light source of claim 1, wherein the diode laser and the reflector are arranged in an external cavity configuration.

25. (Previously Presented) The light source of claim 1, further comprising a lens positioned between the diode laser and the reflector.

26. (Previously Presented) The light source of claim 25, wherein the lens is configured to focus the output beam from the diode laser along a fast axis of the diode laser.

27. (Canceled)

28. (Previously Presented) The light source of claim 1, further comprising multiple diode lasers aligned with respect to the reflector such that a portion of the light emitted from each of the diode lasers is reflected back into the diode laser from which the light is emitted.

29-34. (Canceled)

35. (Currently Amended) A light source comprising:

a first multi-spatial mode semiconductor diode laser;

a first reflector having a three-dimensional pattern of refractive index variations within the reflector, the first reflector being in optical communication with the first semiconductor diode laser and aligned with an output beam of the first laser such that a portion of the output beam of the first laser is reflected back into the first laser by the first reflector;

a second multi-spatial mode semiconductor diode laser;

a second reflector having a three-dimensional pattern of refractive index variations within the reflector, the second reflector being in optical communication with the second semiconductor diode laser and aligned with an output beam of the second laser such that a portion of the output beam of the second laser is reflected back into the second laser by the second reflector; and

a first beam combiner arranged to combine the output beams of the first laser and the second laser,

wherein the output beams of the first laser and the second laser have different polarizations.

36. (Original) The light source of claim 35, wherein the first beam combiner is external to cavities formed by first diode laser and the first reflector and by the second diode laser and the second reflector.

37. (Previously Presented) The light source of claim 35, wherein the first beam combiner is a reflector having a three-dimensional pattern of refractive index variations within the reflector.

38-40. (Canceled)

41. (Previously Presented) The light source of claim 35, wherein the output beams of the first laser and the second laser have different wavelengths.

42. (Canceled)

43. (Previously Presented) The light source of claim 35, further comprising:

a third semiconductor diode laser;

a third reflector having a three-dimensional pattern of refractive index variations within the reflector, the third reflector being in optical communication with the third semiconductor diode laser and aligned with an output beam of the third laser such that a portion of the output beam of the third laser is reflected back into the third laser by the third reflector; and

a second beam combiner arranged to combine the output beams of the first laser and the third laser in parallel.

44. (Previously Presented) The light source of claim 1, wherein the light reflected back into the diode laser by the reflector acts to stabilize the spatial beam quality of the diode laser.

45. (Previously Presented) The light source of claim 1, wherein the semiconductor diode laser is a wide stripe emitter.

46. (Previously Presented) The light source of claim 1, wherein the light reflected back into the diode laser by the reflector acts to discriminate undesired spectral modes.

47. (Previously Presented) The light source of claim 1, wherein only the reflector provides significant feedback into the diode laser.

48. (Withdrawn) The light source of claim 1, wherein the light reflected back into the diode laser by the reflector acts to discriminate undesired spatial modes.

49. (Previously Presented) The light source of claim 1, wherein the diode laser is a multi-spatial mode diode laser when operated without the reflector.

50. (Currently Amended) The light source of claim 1, wherein the reflector is in contact ~~contract~~ with a rear facet of the diode laser.

51. (Previously Presented) The laser source of claim 1, wherein the reflector has a reflectivity spectral width that is less than 0.01 nm.

52. (Previously Presented) The light source of claim 1, further comprising

a laser active medium that absorbs at least a portion of the output beam and is pumped by the output beam.

53. (Withdrawn) The light source of claim 52, wherein the laser active medium is an active medium of a rod laser.

54. (Previously Presented) The light source of claim 52, wherein the laser active medium is an active medium of a disk laser.

55. (Withdrawn) The light source of claim 52, wherein the laser active medium is an active medium of a fiber laser.

56. (Withdrawn) The light source of claim 7, wherein the reflectivity of the output facet is between about 0.1% to 20%.

57. (Withdrawn) The light source of claim 7, wherein the reflectivity of the output facet is less than about 10%.

58. (Previously Presented) The light source of claim 7, wherein the reflectivity of the output facet is less than about 3%.

59. (Previously Presented) The light source of claim 28, wherein the lasers are arranged in an array on a single chip.

60. (Previously Presented) The light source of claim 28, wherein the lasers are arranged in multiple single-chip arrays, and wherein the arrays are stacked on top of each other.

61. (Previously Presented) The light source of claim 35, wherein the first beam combiner, the first diode laser, and the second diode laser are arranged such that the beams are combined in parallel by the first beam combiner.

62. (Withdrawn) The light source of claim 35, wherein the first beam combiner, the first diode laser, and the second diode laser are arranged such that the beams are combined in series by the first beam combiner.

63. (Withdrawn) The light source of claim 35, wherein the first beam combiner, the first diode laser, and the second diode laser are arranged such that the beams are combined geometrically.

64. (Currently Amended) A light source comprising:

a multi-spatial mode semiconductor diode laser; and

a reflector having a three-dimensional pattern of refractive index variations within the reflector, the reflector being in optical communication with the semiconductor diode laser and aligned with an output beam of the diode laser, such that a portion of the light in the output beam is reflected back into the laser by the reflector;

wherein the reflector has a reflectivity spectral width that is less than 0.2 nm and is adapted to stabilize the lateral mode of the semiconductor diode laser by discriminating some lateral modes to increase a brightness of the output beam.

65. (Currently Amended) A light source comprising:

a multi-spatial mode semiconductor diode laser; and

a reflector having a three-dimensional pattern of refractive index variations within the reflector, the reflector being in optical communication with the semiconductor diode laser and aligned with an output beam of the diode laser, such that a portion of the light in the output beam is reflected back into the laser by the reflector;

wherein the reflector has a reflectivity spectral width that is less than 0.2 nm and is adapted for focusing the light from the diode laser along a slow axis of the diode laser to reduce the number of spatial modes along the slow axis.

66. (Previously Presented) A light source comprising:

a multi-spatial mode semiconductor diode laser; and

a reflector having a three-dimensional pattern of refractive index variations within the reflector, the reflector being in optical communication with the semiconductor diode laser and

aligned with an output beam of the diode laser, such that a portion of the light in the output beam is reflected back into the laser by the reflector and such that the emission spectrum of the laser is stabilized to within about 0.2 nm over a temperature range of about 35°C and over a drive current that changes by a factor of 2.5.

67. (Currently Amended) A light source comprising:

a first multi-spatial mode semiconductor diode laser;

a first reflector having a three-dimensional pattern of refractive index variations within the reflector, the first reflector being in optical communication with the first semiconductor diode laser and aligned with an output beam of the first laser such that a portion of the output beam of the first laser is reflected back into the first laser by the first reflector;

a second multi-spatial mode semiconductor diode laser;

a second separate reflector having a three-dimensional pattern of refractive index variations within the reflector, the second reflector being in optical communication with the second semiconductor diode laser and aligned with an output beam of the second laser such that a portion of the output beam of the second laser is reflected back into the second laser by the second reflector; and

a first beam combiner arranged to combine the output beams of the first laser and the second laser,

wherein the first beam combiner is a third separate reflector having a three-dimensional pattern of refractive index variations within the third reflector.

68. (Withdrawn) A light source comprising:

a multi-spatial mode semiconductor diode laser; and

a volume diffractive grating having a three-dimensional pattern of refractive index variations within the reflector, the volume diffractive grating being in optical communication with the semiconductor diode laser and aligned with an output beam of the diode laser, such that a portion of the light in the output beam is reflected back into the laser by the reflector.

69. (Previously Presented) The light source of claim 4, wherein the photonic bandgap crystal is a volume diffractive grating.

70. (Withdrawn) The light source of claim 4, wherein the photonic bandgap crystal is an interference filter.